

STEREOSCOPY AND AUTOMATIC FEATURE TRACKING FOR ANALYSIS OF STEREO IMAGING DATA

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Stereoscopy and triangulation can be used to determine the three-dimensional location and structure of objects (loops, CMEs, etc.) that can be identified in simultaneous images from the two STEREO spacecraft. The process of identifying the pixel location of the same "feature" in both images of a stereoscopic pair is termed "tiepointing." The set of tiepoints, together with knowledge of the spacecraft location, can be used to determine the 3D position of the feature in solar coordinates. The 3D velocity of the feature can be determined from a time sequence of stereoscopic images. To analyze the large volume of STEREO data, it is desirable to automate the tiepointing procedure. Here, we report on progress on automatic feature identification and tracking for use in tiepointing. The feature tracking techniques used here are based on correlation techniques developed for processing stereoscopic planetary images. Automatic feature tracking for EUV loops from TRACE data and CMEs from SOHO LASCO data will be demonstrated. We also demonstrate the successful use of automatic feature tracking for tiepointing and 3D reconstruction of simple loops from simulated stereoscopic data.

This paper is submitted for the session : 6) 3-D Reconstruction for Chromospheric and Coronal Observations you have no preference about this paper presentation

Thank you for having submitted this paper See you in Paris! à bientôt...